DESCRIPTIVE ANALYSIS OF LANGUAGE IN KANNADA SPEAKING CHILDREN WITH INTELLECTUAL DISABILITY

SYNOPSIS

Candidate

Mr. SATISH. K

Dr. M. V. Shetty College

of Speech and Hearing

Malady Court,

Kavoor, Mangalore-575015

Guide

Dr T.A. SUBBA RAO

Professor,

Dr M. V. Shetty College

of Speech and Hearing

Malady Court,

Kavoor, Mangalore-575015

INTRODUCTION

Language is seen as a natural phenomenon of human behaviour and has been described as the primary means of communication just as studying Phonological, Semantics (content) and Syntactic(structural form) rules of language. A child must master the rules that underlie how language is used for the purpose of communication.

The Linguistic model that is widely adapted for use in describing the nature of language disorders in children is that of Bloom & Lahey (1978). The model describes three major components of language the form that codes the context, the content or meaning that is coded or represented and the use or the purpose of the code in particular context. So we can say that knowledge of language is viewed as the integration of context, form and use.

Children with Intellectual Disabilities form a major group of children with language disorders in India. Disability India.com using 2001 census data has concluded that 10% is the prevalence of mental disability NSSO 2001 data also confirms the same. Studies on prevalence shows 2.7 to 6.5 children below age 6 per 1000 population (ICMR, 2007: Ganesh, 2008). With economic prosperity and social awareness the demand for services like speech language intervention is increasing. Interest in understanding language development in typically developing children and children with Intellectual Disabilities in western countries is being researched extensively. It is a general experience of Speech language pathologists that largest population that seeks therapy in clinics in India is that of Mental Retardation/Intellectual disability. However, there is no hard data to make accurate interpretation.

Intellectual disability is characterized by significant limitations in both intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18.

Intellectual functioning—also called intelligence—refers to general mental capacity, such as learning, reasoning, problem solving, and so on. One way to measure intellectual functioning is an IQ test.

Adaptive behavior is the collection of conceptual, social, and practical skills that are learned and performed by people in their everyday lives.

Conceptual skills—language and literacy; money, time, and number concepts; and self-direction

Social skills—interpersonal skills, social responsibility, self-esteem, gullibility, social problem solving and the ability to follow rules/obey laws and to avoid being victimized.

Practical skills—activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, use of the telephone.

American Association of Intellectual development and Disabilities (AAID, 2009)

Prelinguistic Development

There is distinct preference for human speech over other sounds (Morse, 1972). Along with this, newborns interest in human faces (Bushnell, Sai & Mullin, 1989) and their capacity to imitate facial expressions (Meltzoff and Moore, 1977) prepare them for the social basis of communicative development.

The following section discusses the early vocal delays in infants with retardation particularly down syndrome. Next, different patterns of social interaction that have been identified in children with different kinds of retardation have been discussed.

Vocal Development

During the first year of life infants develop the capacity to produce speech sounds. They proceed through stages of cooing (around 2 months) and babbling.

Babbling which starts in the second half of first year is an important precursor to the meaningful speech. Babies start to produce consonant-vowel syllables such as mama or dada.

Research on babbling in infants in Down syndrome as compared to normally developing infants about two months behind normally developing group (Lynch, Oller, Eilers & Basinger, 1990; Steffens, Oller, Lynch & Urbano, 1992) and more over babbling was

significantly less stable as compared to normally developing infants due to motor delays and hypo tonicity that are characteristic of Down syndrome (Lynch et al., 1990).

Early Grammar

After naming explosion, children usually begin to combine words to create simple two word utterances, also called telegraphic speech. Gradually, children's sentences increase in length as they add more semantic and grammatical elements. This growth is measured in terms of child's mean length of utterances (MLU; Brown, 1973).

At the early stages of language development, open class categories dominate the child's vocabulary (nouns, verbs, adjectives, adverbs) but as MLU grows, children use increasing closed-class terms such as pronouns, prepositions, conjunctions. Early stages of grammatical development in retarded population are similar to that found in normally developing children.

Various studies on young children with Down syndrome have found widely varying rates of change in MLU within this population (Beeghly, Weiss-Perry & Cicchetti (1990); Fowler, Gelman & Glietman (1994) studied a young girl with Down syndrome who did not begin to create two word utterances until about the age of 4. However, her rate of development after this point was rapid and did not differ from normal until she reached MLU of 3.5 when she was five-and-a-half years old.

Tager-Flushberg & Calkins (1990) found rapid rates of development during the early stages of syntactic growth for two out of six children with Down syndrome. Other children with Down syndrome who had IQ scores below 50 (Fowler, 1988) did not begin combining words until the age of five or six. They then spend a long period in which they use relatively few two word utterances. Thus, their rate of development is very slow and these children never develop beyond the early stages of grammatically development (Dooley, 1976; Miller, 1988).

SubbaRao (1995) after reviewing the published literature opines that mentally handicapped individuals show slow development of syntax and have particular problems with morphemic inflections. However, their problems are substantially understandable within a delay rather than a difference model. Whether the impact of training procedures is sufficient

to raise the level of syntactic functions to that anticipated by mental age levels has not been explored (Kiernan, 1985).

Phonology

As children acquire the meaning of words, they are also learning how to articulate these words following the phonological rules of the language. Most of the phonological development is complete by the time children go to school. However, they continue to make certain articulation errors that reduce or simplify their language (Ingram, 1986).

Children with retardation, particularly those with lower IQ, tend to exhibit articulation deficits (Abbeduto & Rosenberg, 1993).Children with Down syndrome exhibit difficulties with the phonological aspects of language which can be related to their delayed onset in babbling & which further explains their overall delays in expressive language. Dodd (1976) compared phonological errors made by severely retarded children with Down syndrome, by children with non specific retardation, and by normally developing children, matched on overall cognitive mental age. Children with Down syndrome produced more errors and more different types of errors than either of the two groups and their phonological development lagged significantly behind their cognitive level.

A study by Stoel-Gammon (1980) on spontaneous speech produced by a group of mildly retarded children found that her subjects were capable of producing all the phonemes of English suggesting no evidence for deviance in this area of language. Moreover, it was found that the phonological abilities of children with Down syndrome were comparable to those of normally developing children at the same language level and like Dodd (1976) her subjects were clearly delayed relative to their cognitive mental-age levels. In contrast children with William's syndrome did not appear to have particular problems with articulation. Gosch, Stading and Pankau (1994) on a large sample of children with Williams's syndrome found that their articulation was significantly better than a mental age-matched group of children with non-specific retardation.

Subba Rao (1995) suggests that some mentally handicapped individuals either fail to develop any marked articulation system or appear to develop highly deviant ones. Most studies suggest that the phonological development of mentally handicapped children is slow

being linked to mental age, but that it follows normal course of development in terms of number and type of errors. The major exception to the delay pattern is Down's syndrome population, who show many deviant errors (Dodd & Leahy, 1989).

Morphology

Bartolucci, Pierce & Streiner (1980) did a cross-sectional study of grammatical morphemes in autistic and mentally retarded children. The frequency of occurrence of factors in obligatory contexts was studied in verbal autistic and mentally retarded children matched for nonverbal mental age, and the percentages of correct use of factors were rank-ordered. The grammatical complexity of their language was also described using a transformational grammar. The data were compared to those obtained in a normal group matched for mental age and to the data presented by Brown (1973) ; deVilliers & deVilliers (1973) in younger children. The autistic subjects omitted factors frequently and independently of the grammatical complexity of their language. The rank ordering of morphemes was consistent within both the autistic and mentally retarded groups but showed no correlation between the two groups.

Lazaro, Garayzabal & Moraleda (2013) studied the differences on morphological and phonological processing between typically developing children and children with Down syndrome. It is widely acknowledged that people with Down syndrome (DS) have less highly developed morph syntactic abilities than typically developing (TD) children. However, little is known about the morphological processing of this population. The Study was done by carrying out two experiments in which the morphological Base Frequency (BF) effect is explored in both groups. The aim of the experiments is to carry out an in-depth exploration of morphological processing in children with DS and TD children. In the first experiment children performed a definition task; in the second children had to provide a plural form for singular words. The results show a significant BF effect in only the first experiment. In the second experiment this morphological variable does not reach significance, but the variable we called Ending phoneme (a phonological variable that refers to the last phoneme of the bases prior to the addition of plural morphemes) does. The results also show that children with Ds score significantly below the two control groups in both experiments, with no significant differences between control groups.

Rondal (2013) explained grammatical difficulties in intellectual disabilities. Morph syntactical difficulties are common in congenital syndromes of intellectual disabilities (ID). Explanations have been proposed in terms of global intellectual, explicit memory, and/or inadequacies in linguistic input that are questionable. Author argue that the morphosyntactical limitations in the language development and functioning of these persons stem from a lesser ability in implicit learning, a type of learning arguably largely involved in grammatical development.

Syntax

Marcell, Sewell & Whelan (1995) evaluated Sentence imitation by adolescents and young adults with Down's syndrome and other intellectual disabilities. Sentence imitation performance was evaluated longitudinally in 26 adolescents and young adults with Down's syndrome (DS), and 26 age- and IQ-matched non-DS individuals with other causes of intellectual disability (ID). In each of three annual assessments, the DS group began sentence repetitions more slowly and imitated sentences less accurately than the ID group. DS sentence repetition accuracy was equivalent to the ID group only for two-word sentences and was poorer for every other sentence length. Comparisons of sentence imitation and auditory digit span scores suggested that only ID subjects benefitted from the additional meaning and structure provided by sentences. Correlational analyses performed between each year's sentence imitation score and a set of language, memory and hearing measures revealed that sentence imitation was related to grammatical comprehension, auditory short-term memory and IQ in both groups, and to expressive language ability, speed of spoken word processing, speech discrimination and acoustic reflexes in the DS group only. A significant relationship between sentence imitation and middle-ear functioning was further supported by a categorical analysis in which DS subjects with bilateral abnormal tympanograms tended to perform more poorly on sentence imitation tasks than DS subjects with at least one normal tympanogram.

Bruno, Martin & Roberts (2012) examined cognitive, environmental, and linguistic predictors of syntax in fragile x syndrome and Down syndrome. The study examined which cognitive, environmental, and speech-language variables predict expressive syntax in boys with fragile X syndrome (FXS), boys with Down syndrome (DS), and typically developing (TD) boys, and whether predictive relationships differed by group. Method: We obtained

Index of Productive Syntax (Scarborough, 1990) scores for 18 boys with FXS only, 20 boys with both FXS and an autism spectrum disorder, 27 boys with DS, and 25 younger TD boys of similar nonverbal mental age. Predictors included group (diagnosis), nonverbal cognition, phonological working memory (PWM), maternal education, speech intelligibility, and expressive vocabulary. The research questions were addressed via hierarchical linear regression. Results: Diagnostic group, nonverbal cognition, and PWM predicted 56% of the variance in syntactic ability, with approximately three-fourths of the predicted variance explained by group membership alone. The other factors did not contribute any additional significant variance in this final model. There was no evidence that predictor effects differed by group.

Martin, Losh, Estigarribia, John & Roberts (2013) compared three domains of language production (vocabulary, syntax, and pragmatics) over time within and across groups of boys with FXS with and without autism spectrum disorder (FXS-ASD, FXS-O), boys with DS, and typically developing (TD) boys. Twenty-nine boys with FXS-O, 40 boys with FXS-ASD, 34 boys with DS, and 48 younger TD boys of similar non-verbal mental age living in the United States participated in the study. The Antonyms, Syntax Construction and Pragmatic Judgment subtests of the Comprehensive Assessment of Spoken Language were administered annually over 3 years. TD boys scored higher than all other groups on all three subtests; boys with FXS-O and FXS-ASD scored higher than boys with DS in Syntax Construction; and boys with FXS-O scored higher than boys with FXS-ASD in Pragmatic Judgment. Within-group patterns varied between groups. Overall, the TD group showed significantly more change over time than all other groups.

Semantics

Duchan & Erickson (1976) examined the understanding of semantic relations in different verbal contexts in normal and retarded children. The effect of different semantic relations presented in different verbal contexts to language retarded and normal children at the one-and two-word stage of development were studied. No significant difference was found between the performance of mentally retarded language-disordered and normal children on the verbal comprehension task. Both groups of children performed best on the possessive, next on the agent-object, then actor-action, and poorest on the locative relations. Finally, nonsense, telegraphic, and expanded contexts did make a difference in the children's

understandings with expanded being the best, telegraphic next, and nonsense contexts poorest.

Roch, Florit & Levorato (2013) studied the role of linguistic context in deriving word meanings in individuals with Down syndrome. The study was investigated in 24 individuals with Down syndrome and 24 typically developing children matched for Peabody Picture Vocabulary test (PPVT) score. The study consisted of three phases: Unknown words were identified during the first phase. Those words were presents embedded in brief linguistic context during the second phase. Recognition (maintenance) of word meanings was verified in the third and final phase. Both groups of participants recognized the meaning of a noteworthy number of words in context and high percentage of these was maintained when they were presented at a later time without the support of context.

Witt & Vinter (2013) assessed Children with intellectual disabilities may be impaired in encoding and recollecting incidental information. Children with intellectual disabilities (ID) and controls were exposed to an incidental learning phase, where half of the participants received highly implicit instructions at test while the other half received explicit instructions. When learning was assessed for simple chunks of information, children with ID performed better with implicit instructions than with explicit ones, while the typically developing (TD) children performed equally well in the two test conditions. When more complex chunks were considered, performance was degraded for all children in the implicit instructions condition, while the TD children took advantage of receiving explicit instructions at test. Additionally, only TD children succeeded in a subsequent recognition test.

Pragmatics

Performative or Communicative intentions: pragmatics or socially and contextually appropriate use of language depends on the purpose or the function of that language serves and therefore cannot be studied separately from m the language. Language can be communicative (directed to a listener which depends on the interpersonal relationships and called dialogue, as per Rees, 1978) or non communicative (not directed to a listener but may be self directed, called a monologue). Thus analysis of pragmatic aspects of communication requires due consideration to the functions of language, for example, to greet and to express social routines, to regulate, control, persuade, request, convince, correct, criticize and demand, to exchange information as well as express feelings and to be imaginative.

Performatives or communicative intentions refer to what the speaker intends to carry out with his utterances or the functions served by these utterances. Austin (1962) coined the term ‘speech act’ to refer to the social acts people perform with their linguistic utterances. The utterance is understood on the basis of what is said, what the intended meaning stands for and the effect of this meaning on the listener. The utterance thus never stands alone; it has a ‘reality’ only in the situation in which it is uttered. The context as well as the inherent world knowledge will help the listener make ‘sense’ of what the speaker has said. Developing the concept further, Searle (1969) suggested three components to the speech act. The purpose of communicative attempt or the intent behind the utterance is termed the ‘Illocutionary’ act or force, the utterance proper is called the ’Locutionary’ act and the effect on the listener is the ‘Perlocutionary’ component.

The illocutionary force and the speaker’s state of mind are rarely stated explicitly as to become part of the semantic meaning. Further, same locutionary acts can convey different intents as well as lead to different perlocutionary effects on listeners. These speech acts are considered ‘direct’ when the utterances are able to explicitly convey the intent, while those that convey the same intent through different locutionary acts with various degrees of explicitness are called ‘indirect’ speech acts (Searle, 1975). The participants in a communicative interaction have to follow certain ‘co-operative’ principles (Grice, 1975), so as to understand such a message. These principles or ‘maxims’ of conversation are the:

-Maxim of quantity – that amount of given information is sufficient.

-Maxim of quality- that what is said is truth.

-Maxim of relevance- that what is said will be relevant to what is being discussed.

-Maxim of manner – that what is said will be both brief and clear and not deliberately ambiguous in addition to being presented in an orderly manner.

Presupposition: presupposition is the information that may not be explicitly contained in an utterance but must be known if the sentence has to be understood (Bates, 1976) where the implied information must be assumed to be true. It has also been considered to be the speaker’s assumption about the context and about the listener’s knowledge that modify the manner and content of the speaker’s utterances (Johnson, Johnston &Weinrich, 1984).

Presuppositional abilities are reflected in the use of linguistic device like ‘deixis’ which anchor an utterance to the setting in which it occurs. Deixis do not stand alone; they can be understood only as they relate to the other elements of conversation, e.g.: pronouns (‘I’, ‘you’, ‘this’, ‘that’), adverb of locations (‘here’ & ‘there’), adverb of time (‘before’, ‘now’, ‘then’), and verbs such as ‘come’, ‘go’, ‘bring’.

Another aspect of presupposition is the use of direct or indirect reference (a/the) depending upon the context. Reference devices such as ‘substitution’ ‘ellipses’ and ‘conjunction’ can also be used to establish connections across consecutive utterances (Halliday & Hassan, 1976 cited in Roth & Spekman, 1984a) in addition, this skills also s related to the degree of explicitness of information conveyed. With the changes in means of communication (telephonic conversations), the speaker should be able to make modifications to convey information in a clear and explicit manner. Further, the speaker should have the ability to modify his utterance according to informal (home or play) versus formal (school0 settings as well as being able to code old and new information as per the needs of the situation (Skarakis & Greenfield, 1982)

Rules of conversation and social organization of discourse: Ability to relate utterance to each other over time (discourse) and to relate utterance between and among speakers conversation is very important.

The individual should be able to perform both the roles i.e. of the speaker as well as listener and should assume these roles alternatively. Several features of conversation/discourse have been identified: namely, spacing of pauses, turn taking, initiating/terminating conversations etc. in addition, when there is a misunderstanding/breakdown during the interaction, the partners should be skilled in repairing those (Hegde & Maul, 2006).

In the above framework, ‘context’ (channels available for communication, feedback, physical environment and partner’s characteristics) is considered an important variable that affects the type and form of interactions as well as their organization. Different contexts contribute to communication as a whole (Bates 1976; Searle, 1969) and they interact with each of the linguistic sub components for both the speaker as well as the listener (Halliday, 1975). Lund and Duchan (1983) considered 4 contexts as of immense value to

communication, namely the situational, intentional and listener contexts as well as the linguistic cohesion while Prutting (1982) has stressed the need to include cognitive and social, physical, linguistic and nonlinguistic contexts in analysis of communicative behaviors**.**

Arnaud & Annie (2013) Children with intellectual disabilities (ID) and controls were exposed to an incidental learning phase, where half of the participants received highly implicit instructions at test while the other half received explicit instructions. When learning was assessed for simple chunks of information, children with ID performed better with implicit instructions than with explicit ones, while the typically developing (TD) children performed equally well in the two test conditions. When more complex chunks were considered, performance was degraded for all children in the implicit instructions condition, while the TD children took advantage of receiving explicit instructions at test. Additionally, only TD children succeeded in a subsequent recognition test. These results suggest that intentional retrieval of complex information, even when learned implicitly, is deficient in children with ID.

NEED FOR THE STUDY

Different forms of retardation follow the same set of universal principles in acquisition of word meanings (however, this may not be true for severely and profoundly impaired children).Broad similarities in error patterns made by children across these groups and those in typically developing children are seen. Retarded children acquire syntactic and morphological knowledge in the same way and in the same order as that of typically developing children. For example, children with William's syndrome acquire mature grammatical system, whereas children with Down syndrome show serious limitations in the grammatical development. This deficit in children with Down syndrome may be due to specific impairment to the mechanism that serves to process linguistic information (Fowler, 1990).Children with intellectual disabilities do acquire basic pragmatic language skill, more subtle aspects of conversational competence is less commonly displayed. Most of the research in the area of language analysis and characteristics is carried out through dissertation and doctoral thesis. Most of the Indian studies are limited to Kannada and one study each in Tamil, Malayalam and Bengali which clearly indicates that major works has been done in Kannada however number of studies covering all the aspects of language is limited. The recent western studies indicate that ,major work has been done in the area of phonology (

phonological process, strategies , awareness , Phonatactic patterns) ,syntax(mean length of utterance) morph syntax(case marker, PNG markers, tense markers) , semantics (semantic intentions and relations), and very few limited studies on pragmatics. There is no single study in Kannada which incorporates all the aspects of language that is phonology, morphology, syntax, semantics and pragmatics using a conversational sample recorded using video modality.

Keeping in mind the above limitation the following aspects was taken care to improvise the language analysis in present study One elaborate study in kannada by SubbaRao (1995) which has not been supported with additional data and hence the present study attempts to strengthen the language profiling in Kannada speaking children with mental retardation and mental age of 4-6 years was included for verifying and validation of the study.

The study aims at profiling language in Kannada speaking children with intellectual disability (mental age 4-6 yrs) with objectives of Analyzing the data at all levels of language functioning -Phonology, Morphology, Syntax, Semantics and Pragmatics as compared to mental age matched typically developing children and also Analyzing the obtained data between children with Intellectual disability and typically developing children with representations of three dialects of Kannada i.e., Mysore, Mangalore and Belgaum and determining if the comprehensive language profiling will provide effective language intervention targets in 4-6 years mental aged children with intellectual disability.

AIM OF THE PRESENT STUDY

The study aims at profiling language in Kannada speaking children with intellectual disability (mental age 4-6 yrs) with objectives of

1. Analyzing the data at all levels of language functioning -Phonology, Morphology, Syntax, Semantics and Pragmatics as compared to mental age matched typically developing children.

2. Analyzing the obtained data between children with Intellectual disability and typically developing children with representations of three dialects of Kannada i.e., Mysore, Mangalore and Belgaum.
3. Determine if the comprehensive language profiling will provide effective language intervention targets in 4-6 years mental aged children with intellectual disability.

METHODOLOGY

The present study aims to profile language in Kannada speaking Children with Intellectual Disability by obtaining video and audio recordings of conversational samples in informal and naturally occurring play situations. Thus obtained samples were analyzed based on a sound theoretical model Language Assessment Remediation and Screening Procedures (LARSP) guidelines (Crystal, Fletcher & Garman 1976, 1989). Modification guidelines incorporated by Subbarao (1995) were also considered and adapted suitably.

RESEARCH DESIGN

The present research used a standard group comparison design which is an extension of ex- post facto and normative research. No manipulation of any independent variable was attempted. Hence, no causal relationship can be established. The clinical group consisted of children with Intellectual disability and the control group included typically developing children. Selected dependent variable(s) between the groups were measured and compared.

SUBJECTS

Part 1:

Subjects included 30 typically developing children within the age range of 4-6 years old children and 30 children with intellectual disability (Mental age 4-6 years).

Part 2:

In the second part of the study 10 typically developing children and 10 children with intellectual disability (Mental age 4-6 years) each were selected from Mysore, Mangalore and Belgaum dialectical regions of Kannada.

DATA COLLECTION AND ANALYSIS

Following the guidelines of LARSP (Crystal et.al., 1976 and 1989) and in subsequent kannada language adaptation (Subba Rao, 1995) on sample collection, a set of toys and pictures were selected. Toys and pictures used for sample collection are as shown below.

Toys and play materials – House building set

Toy jeep

Ball

Toy Utensils

Coins

Travel bag set

Paper-Pencil

List of Pictures City road traffic

Village life-1

City life

Village Life-2

Topics for elicited work at school, teachers, responses from subjects

Games played with friends

Cinema

Television program

Favorite music

Favorite clothes

Family members

Sample was a combination of conversation with the children and interactive aspects using toys and pictures.Free conversation was encouraged throughout 30 minutes session with each child.The setting was within the familiar environment of the school.the researcher interacted with children before hand to become familiar.First half of the session recording focused on free conversation,later half involved discussions regarding the toys and pictures.The session was recorded using sony video recorder (Model DCR-3R21E). A quiet room of the special school /school was used for recording. An additional note was taken to indicate accuracy of children's response to stimuli for later use in transcription.

Thus obtained sample was transcribed, analyzed and profiled at phonology, morphology, syntax, semantic and pragmatic levels. Main focus of the study was syntactic and pragmatic levels. The overall guidelines provided by LARSP (crystal et.al., 1976 and 1989) was used for the transcription of the sample and analysisof response patterns.Suggestions and guidelies provided by an earlier study of language analysis in kannada speaking children with mental retardation using LARSP (Subba rao,1995) was adapted Pragmatic analysis was based on guidelines provided by Shilpashri (2010)

The present study involves analyses of phonological, morphological, syntactic, and semantic and pragmatics aspects in Kannada speaking typically developing children and children with intellectual disability.

PRAGMATIC ANALYSIS

The recorded video samples of clinician –child and parent-child interaction was subjected to frequency calculations, frequency referred to the number of instances of initiation from mother and responses given by each child and self-initiations by each child for each pragmatic skills. The responses obtained from each child for pragmatics skills was grouped into two categories namely, response and no response.

RESPONSE: Contextually appropriate response (gesture and utterances) from the child that occurred to clinician /parent imitation of pragmatic skills.

NO RESPONSE: Ignoring the question without answering responses out of topic was also grouped in "No response" category for ease of practical analysis for statistical purpose.

Kannada dialects and languages

There are about 20 dialects of Kannada, including Kundagannada, Havigannada, and Are Bhashe.

Kannada proper

Kannada - a Dravidian agglutinative language spoken by more than 30 million people in and around Karnataka State in southern India, Dialects of Kannada proper fall into four groups:

Coastal dialects

Mangalore Kannada, Halakki, Barkur, Havyaka, Kundagannada, Sirsi Kannada, Ankola Kannada.

Northern Dialects

Dharwad Kannada, Gulbarga Kannada, Bagalkot Kannada

South-eastern

Are Bhashe or Gowda Kannada, Tiptur, Rabakavi, Najangud

South Karnataka

Aruvu, Bangalore Kannada, Soliga, Kannada Kurumba, Gowdra Bhashe

http://cultureopedia.com/languages/tribal_languages (h-J).html, 2011-02-22.

The method of transcription was as per the guidelines of LARSP procedure. Each of the utterance of the Clinician (C) - Pupil/subject (P) was transcribed verbatim, within few hours of recording on the same day. The sample obtained was subjected to a total of 18 scans to cover phonological, morphological, syntactic, semantic and pragmatic aspects and each aspect marked separately on a worksheet for each subject. Only the presence or absence of a unit of analysis is noted and marked '+' or '-' respectively and transferred on to a smaller profile for analysis purposes. The following scans were made for each transcript.

Scan 1*:* This scan determines the range of sentences which cannot be analysed, or which raise problems which have to be deferred until later in the analysis. Under unanalysed, three categories of sentences are included (a) the sentence or utterance is wholly or partly unintelligible, (b) symbolic noise such as imitations of vehicle noises and vegetative noises which are not counted and (c) deviant sentences, which are both structurally inadmissible in the adult grammar, and not part of the expected grammatical development of normal children.

Under the problem category incomplete and ambiguous sentences are included. Incomplete sentences are generally unfinished sentences, marked by incomplete prosody. Ambiguous sentences refer to sentences which could receive two or more possible syntactic interpretations and it is unclear from all available situational information which is correct.

The **Scan-1** tries to ensure that subsequent scans will be as unproblematic as possible, so that a rapid and continuous analysis can be made. The Scan-1 sentences are not analysed further.

Scan-2*:* This establishes the proportion of spontaneous to response sentences in the sample, and provides an analysis of the type of response. Generally, a response is considered as the sentence immediately following a sentence C has produced. Responses are classified according to the type of stimulus sentences as question stimuli and others. The total number of questions vs others is included. All types of questions are categorised under 'questions' and all other type of sentences included under 'others'. Filler sounds and self commentary sentences used by C are ignored, unless C has allowed sufficient time for P to respond.

The response patterns are classified under 'normal response type' and 'abnormal'. Normal responses are 3 types: (i) a full major sentence, (ii) an elliptical major sentence: where it is possible to recall an exact number of words omitted, by referring to previous sentence. If one word of the sentence is remaining it is elliptical 1 and similarly elliptical 2 and 3 sentences are noted, (iii) a minor sentence: usually / uhm, illa/ (no), /mhm, houdu/ (yes). Abnormal response types are two types, one zero response, where a response is expected but not provided. The other is structural deviance, where syntactically, a response is not a possible match for the syntax of stimulus sentence.

A broad category of repetitions was classified, in which any of P's sentences, where there is cause to think that P is doing nothing more than repeating all or part of C's sentence are included. Generally echolalia responses and elicited imitations were also included. Wherever there is uncertainty in classification in any of the above categories, sentences are placed under 'problem' category. The total numbers of all responses to questions or others are given under the heading 'total' and this total can be compared to number of stimuli.

Spontaneous sentences are distinguished from responses. Any extra sentence other than the response sentence produced immediately following a stimulus is considered as a spontaneous sentence. It is seen if they are elliptical 1 type or other type of sentences.

Scan-3*:* Here analysis of minor sentences and quantitative information were considered. A minor sentence was checked to see if it is a social type: yes, no, which, etc., or if it is a stereotype, such as numbers, and rhymes recited. The quantitative information includes (a) the total number of sentences (including repetitions, but ignoring the unanalysed/problematic utterances in scan 1), (b) the mean number of sentences, in each of the P's interchanges with T, the figure is obtained by dividing the total number of P's responses by the total number of T's stimuli, (c) the mean sentence length, measured in terms of 'words', a word is an item surrounded by spaces. Here scan 1 sentences are ignored. The score is obtained by total number of words divided by total number of P's sentences.

Up to Scan 3, the overall guideline of LARSP was utilized, except the change in the notion of ellipsis from clause to word. This change was required due to the agglutinative characteristic of Kannada. This was found to be clinically useful and quick. All the information is noted on the summary profile.

Scan-4: Phonological analysis

Kannada vowels and consonants were selected from an established test in Kannada, Linguistic Profile Test (Karanth, 1985). This test under section-1.B 'Phonetic expression' consists of 52 target sounds for evaluation in different word positions, initial and medial. The target sounds selected for phonetic analysis correspond to the description of Kannada phonology by Schiffman (1979). In all 10 vowels, 2 diphthongs and 21 consonants in different positions were selected. The presence or absence of these phonemes was checked.

In case of articulation errors, an effort was made to analyse the words and record if the phonemes were substituted, omitted, distorted or added. The Section on phonetic analysis is included to obtain wider assessment data. The information would throw light on the frequently reported complaint in MR subjects -the problem of unclear speech. At present, hardly any information is available regarding phonological aspects of Kannada speaking children with intellectual disability. Hence, phonological aspects are included in the present study.

Scans-5 to 15: Syntactic analyses

Under the syntactic analyses 11 scans are made. The structures selected for each of the scans are based mainly on a description of spoken Kannada grammar by Schiffman (1979). A few structures were also selected from the Linguistic Profile Test - Kannada (LPT) (Karanth, 1985). Syntactic aspects formed the main focus of the present study. As was seen in the review of studies done in Indian context, developmental data is currently not available in Indian languages including Kannada. Because of this lack of developmental data, developmental profiling (like that of LARSP) could not be undertaken. The specific characteristics of Kannada, from the above mentioned sources, are included in the syntactic scans. It is felt that counting the frequency of occurrence of a syntactic structure was not practically possible, as this is an initial descriptive study of the Kannada speaking MR children. Hence, the presence or absences of the structures are only noted. Each of the scans is described in the following section with appropriate examples. The description and examples provided are mainly based on two sources - Schiffman (1979) and LPT (Karanth, 1985).

Scan-5: Morphophonemic structures:

Morphophonemics (or Sandhi) has to do with changes that occur in sounds when two words or separate morphemes come together to form a new word, or when they are adjacent in a sentence. Some sounds are inserted, deleted, substituted or reordered. Eight morphophonemic structures that are commonly used are selected for testing.

Scan-6: Plural forms:

Kannada nouns are distinguished by two numbers, singular and plural. The common plural marker in Kannada is /-galu/ (eg. mara (tree) - maragalu (trees), but there are some exceptions as noted below. The singular has no particular marker added. In all 8 variations are selected.

Scan-7: Tenses:

The common present tense marker in Kannada is /-tt-/, and occurs between verb stem and the PNG markers (PNG markers are discussed in scan-8).

Scan-8: Person Number Gender (PNG) markers:

In Kannada finite verbs, PNG markers are added to verbs to indicate agreement between the subject and the verb. These PNG markers differ according to the tense of the verb they mark. In this scan present tense PNG markers were included. These forms of PNG markers and examples are given below:

The PNG markers for the past tense, future/ habitual tense and contingent forms differ. However, these are not included in the present study. The presence or absence of the present tense PNG markers was noted for analysis purposes.

Scan-9: Case markers:

In Kannada case system, various suffixes are added to the noun stem to indicate different relationships between the noun and other constituents of the sentence. In this scan genitive, accusative, dative, locative, instrumental and vocative case markers are selected for analyses. The examples are as follows.

Scan-10: Transitives, Intransitives and Causatives:

In this scan verb relationships to dependent elements in a sentence structure are explored. Apart from transitive and intransitive verbs, causative /-isu/ was included. Here too the presence or absence of such verb forms is noted. Some examples are given below:

Scan-11: Sentence types:

This scan includes interrogative types - yes/no, 'wh', reduplicated and tag, declaratives; negations - finite; affirmative; quotative; imperative, reflexive and permissive - sentence types. Few examples of each type of sentence, included for analysis are given below

Scan-12: Predicates:

The predicate constructions selected were pronominal, nominal, interrogative and adjectival.

Scan-13: Conjunctions, Comparatives and Quotatives:

3 types of conjunctions /-u:/, /mattu/, /haagu/; comparatives /atva/, /ginta/; and quotatives -/anta/ and other types are selected in this scan. The selectional ordering of elements was based on LPT (Karanth, 1985).

Scan-14: Conditional clauses:

This scan includes seven types of conditional clauses: simple, aspectual, complex, negative, topic, modal, quotative and concessive. Again the presence or absence of these elements is noted in the transcription sample.

Scan-15: Participle constructions:

Adjectives may be derived from verbs, generally, by adding /-o:/ or /-a/ to the verb stem. This scan includes five types of constructions, verbal, negative verbal, noun, relative and negative relative participle constructions. The scan again is made for the presence or absence of the structure.

Scans 16 and 17: Include semantic analysis

Scan 16: Semantic intentions:

Meaning intentions in one word responses are analysed. The intentions selected are 13 ranging from nomination to attribution. The selection of presence or absence of response is based on the context in which the subjects responded. The context is determined by the preceding and following C's sentences and notes on the recording situation.

Scan-17: Semantic relations:

This scan included 10 types of semantic relations expressing verbal representations of what the child perceived and related to (Schlesinger, 1971, Brown, 1973; Carrow-Woolfolk and Lynch, 1982). Here the two word constructions of the subject in the transcription are looked into, taking the context into consideration, to decide on the presence or absence of the relations.

Scan-18: Pragmatics:

The guide lines provided by Shilpashree (2010) were followed for analysis of pragmatics data,

The recorded video samples of clinician –child and parent-child interaction was subjected to frequency calculations, frequency referred to the number of instances of initiation from mother and responses given by each child and self-initiations by each child for each pragmatic skills. The responses obtained from each child for pragmatics skills was grouped into two categories namely, response and no response.

RESPONSE: Contextually appropriate response (gesture and utterances) from the child that occurred to clinician /parent imitation of pragmatic skills.

NO RESPONSE: Ignoring the question without answering responses out of topic will also be grouped in "No response" category for ease of practical analysis for statistical purpose.

STATISTICAL ANALYSIS

The sample was transcribed and analyzed in 18 scans for phonology, morphology, syntax, semantics, and pragmatics, the obtained scores for group I(Mysore and Bangalore) and group II (Mysore, Bangalore and Belgaum) were statistically analyzed using frequency, percentage and comparison by Z test(testing proportions) between typically developing and children with intellectual disability.

The data of conversation sample was transcribed verbatim. Care was taken to satisfy the accuracy of transcription by conductivity inter ratio reliability on the portion of the context regression factors will be controlled. The analysis was carried out in approximately 18 to 20 scans covering content, form and use components of language. The results are

expected to strengthen linguistic profiling of Kannada speaking children with the intellectual disability. Such profiling is expected to increase our understanding of disordered language in this group and also help in planning age appropriate remediation.

RESULTS OF THE STUDY

The present study confirms the delay in language development in children with intellectual disability. The differences are mostly noted in morphology and syntax. The present study extended the research area by including three major dialects of Kannada. Results have same difference between subjects with different dialects. These results pose various questions regarding uniform language development across dialects.

It was noted that children with intellectual disability had fewer sentences, shorter sentence length and fewer exchanges with adults while participating in the language interaction task. These results are similar to the study by SubbaRao (1995). The present data has also indicated wide range of performance in both groups of children. The present observation highlights the importance which should be given to individuals language profiling. Free language sampling is one way of ensuring individual language data.

Phonological and communicative acquisition during infancy precedes and prepares the way for acquisition of language. In general, Kannada speaking children, both typically developing and intellectually disabled show acquisition of Kannada phonemes by six years, interestingly children with intellectual disability, using Belgaum dialect, showed that phoneme development is not complete. Dental, Pharyngeal, and retroflex consonants are found to be inadequate. The discrepancy at present can be attributed to the multilingual context in the Belgaum dialect area. It is interesting possibly that language development is affected at dialectal level, making SLPs work competitive. It appears that multiple language tests are important, rather than one in Kannada. Variations in pragmatics aspects also support similar observation. The overall language development appears to confirm to a stage by stage process. This is consistent with the view of Brown (1973) who claims that the acquisition of syntactic patterns is approximately invariant.

Language Skills of typically developing subjects:

The present study of 4-6year old typically developing children displayed a rich variety of structures in all aspects of language – phonological, syntax, semantics and pragmatics. This data had two purposes, one to compare the language profile of typically developing

children and children with intellectual disability and another purpose was to examine the dialectical variation of language (Kannada).The results are likely to reflect in the language analysis of both reflected in the language of both 4- 6 year old typically developing as well as comparable children with intellectual disability.

As a group, 4 – 6 year old children have a well developed phonological ability. Certain phoneme's such as /m, t, n, l/ were not observed significantly. Ingram (1986) supports the present findings where he says that most of the phonological development is completed by the time of children going to school and make certain articulation errors to simplify their language. This language sample of 60 subjects confirm previous findings of Kumudavalli (1973), Thasneem (1977), Sucharitha & Karanth (1990) and Subba Rao (1995) which states that the language development of phonology is almost complete by 6 years of age. It is a significant conclusion that the phonological acquisition is completed by 6 years of age.

Morphophonemic aspects of a language reflect a graduation through acquiring phonological rules and using them in spoken language. Typically developing children appears to have incomplete development of morphophonemic variations of Kannada. (Consonant cluster reduction, Stop insertion, Glide insertion and Consonant substitution) are not present in subjects of this age group. Thus, it can be safely concluded that these aspects of development is a process that goes beyond 6 years.

The plural aspects of Kannada which are seen in the present study agrees with the previous findings of Rao (1995) and Vijayalakshmi (1981), where they opine honorific plural markers are likely to develop after a 6 year time period of syntactic aspects. The developments of plurals are found to be most consistent.

The uses of tense markers indicate that the common tense markers are well acquired. Only the contingent form is not developed.

The PNG markers appear to be present in almost all subjects indicating internalization of syntactic rulesand present results are in agreement with Vijayalakshmi (1981), Sreedevi (1976) where they say that children in the age range of 2.11years and 5-6 years used PNG markers .where results are in contraindication of Prema (1976) where children in 5-6 years did not use PNG markers.

The case system shows robust development, except for accusative (eg: /mara/+/anna/-/maravanna/-mara: na) and vocative (eg: /hengasu/+/-ee/-/hengse/). In the conversation sample, use of vocative case is rare and results of Sreedevi (1976), Vijayalakshmi (1981) and Uma (1993) are in agreement with the preent study where they report that children in the age range of 2.11 yrs, 2ys 6 months, 2 to 2.6 yrs used case markers in kannada.

Verb forms are not fully developed except for causative (eg: /isu/). The intransitive verbs are least developed. The previous studies by Sreedevi (1976),Prema (1979) ,Vijayalakshmi(1981),Subbarao(1995),Uma (1993),Grela (2002) have said that children in the age 2.11 yrs,5 to 6 yrs,2 to 2.6 yrs,4 to 5 yrs old have reported the presence of all three verb forms and the difference in the results could be due to the variations in the data collection method, as the previous studies have used picture naming task while the present study has used conversation analysis.

The sentence types appear to be the most difficult part of language acquisition for the group. Only declarative sentences (eg: /yavagalubarta: ne/) are frequently observed. Possessive (eg:/nangehana ide/), reduplicated (eg:/nang be: ke: be:ku/) are also seen. The development of sentence continues after the age of 6 years. This observation is supported by the studies of Prema (1979),Uma (1993) ,Vijayalakshmi (1981), Karanth (1990) &Subbarao (1995)

As expected conjunctions, comparative and Quotatives were observed to be present in this group. This reflects continued progression of the language complexity. The difficulties in predicates and conditional clauses reflect that the language development is not complete in Kannada speaking children by 6 years and is in agrremnt with Prema (1979), Uma (1993),Karanth and Sucharitha (1993) have told tat conditional clauses are used by children as they grow in age and not used by very young children.

The typically developing children show an effective acquisition of majority of semantic intention indicating a correlation between the content, form, and use of language. The reduced use of questions and recurrence indicates that children in general use reduced questioning. This was previously observed by Rao (1995). This further reflects adult child interaction strategy in Indian context. Similar trends have been seen with semantic relation also.

Pragmatic skills reflect the effective use of syntax and semantics in real life interaction with adults. Subjects used majority of the pragmatic skills effectively. The reduced use of questions, sentences etc is also reflected in reduced pragmatic use of request, refusal, and question topic change etc. Hence, it can be concluded that the acquisition of pragmatic skills is still an ongoing process even after six years as indicated by Jayashree (2002) where it is said that pragmatic skills are not used fully by either group of children in the age range of 4-6 years mental age.

.Children with intellectual disability is far similar to typically developing children in the use of semantic intentions and relations. It is observed that even if the syntactic acquisition is delayed and limited the subjects use their acquired language effectively. Similar trend is observed with semantic relations also the results are in support with the study by Subba Rao (1995), Mahesh, Merlin and Rao (2008); Stan and Mosley (1998) also found that semantic encoding was poor in mental retarded children in comparison with non retarded children. But study by Duchan and Erickson (1976); Bailoor, Kuruvilla and Rao (2010) Contradicts the present results where they say that typically developing children and Children with Intellectual disability showed similar performance.

Pragmatic skills present interesting pictures in subjects with intellectual disability as compared to typically developing children. Refusal and request behavior dominates as compared to narration, joint attention etc. This variation may reflect the teaching/therapy style of interaction where children are made to use this functional skill of request and refusal. The generally poor pragmatic acquisition indicates the need for incorporating functionally relevant interaction activities that makes optimal use of syntactic and semantic acquisition.

Language skills of Subjects with Intellectual Disability

Children with intellectual disability in the present study demonstrated a delayed and varied phonological performance on previous studies indicated vowels, palatals, and labials which were reported to be completely acquired. According to Dodd (1976) children with Down syndrome showed many phonological errors and phonological development lagged when compared to typically developing. A slight variation from the previous studies is that retroflex and dental sounds along with pharyngeal sounds were observed in more than 50% of subjects. This observation could be due to larger size sample and a well improved methodology using video sample. It can be reasonably concluded that the present data of

spoken Kannada indicates that the frequency of usage of certain phonemes in the language substitution errors of alveolar sounds and omission of velar perhaps reflects the limitations in phonological acquisition of children with intellectual disability.

As compared to typically developing children, morphophonemic development is diverse in children with intellectual disability. Glide reduction and addition of consonants appear to be least observed. The phonemic utility continues to develop despite acquiring a phonological system.

Children with intellectual disability are very similar to typically developing children in acquisition of plurals except in using gender and irregular forms. The language development which proceeds through individual stages with deficient horizontal expansion appears to be the main reason for this group's poor performance. The results coincide with findings of Lozaro, Garazabul and Moraledo (2013) where they say children with down syndrome performed below typically developing children.

Tenses almost mirror the development in typically developing subjects, but to a lesser extent. This result further confirms the delayed language acquisition. Which are in agreement with the previous studies.

Children with intellectual disability expectedly showed delayed and varied performance while using PNG markers. Only Neuter Gender (eg: Adu, Idu etc) is present in more than 70% of the subjects. The pattern of PNG markers which are similar to previous researches SubbaRao (1995) form a pivotal syntactic area that can be targeted in the language intervention programs.

Children with intellectual disability showed reduced use of case markers, in a pattern similar to typically developing children. The present study supports the findings of SubbaRao (1995) where it is said less usage of case markers in mentally retarded children. It is possible that the language intervention that these subjects receive focuses on the acquisition of nomination or naming making it difficult to acquire the contextual cues of case. This one area needs to be focused in language intervention.When as compared to typically developing subjects, subjects with intellectual disability show the use of intransitive words eg (/ra: jubidda/, /avanbanda/). This development could be due to longer duration of using the language i.e, around four years for language period.

Children with intellectual disability have a profile comparing to that of typically developing children indicating a delayed developmental modal. Some reduction in the use of 'Wh' interrogatives (eg: - /ya: ru? / /yavagalu? /, ya: rge? /,/estu?/,e:nu?/, e:n madidru/) could be the product of interaction with adults that these children go through. The questioning behavior typically exhibited by the adults hinder the development of questioning in children .hence this aspect has to be considered during therapy interaction activities.

Children with intellectual disability find it difficult to use higher level language form such as predicates, conditional clauses and conjunctions. Unmarked conjunctions (eg: /-u:/,/mattu/,/haagu/) appear to be the only one which is acquired. It is reasonable to observe that limitations in these aspects will affect conversational interaction.

COMPARISON OF LANGUAGE ASPECTS ACROSS THREE DIALECTS OF KANNADA (MYSORE, MANGALORE, BANGALORE)

The general trend of phonological, syntactic and pragmatic aspects observed in 4- 6 year old mental aged children with intellectual disability and mental aged match typically developing subjects were discussed in the previous section. A general theory of delay and deviance were observed. Another noted aspect is poorly developed pragmatic skills despite having syntactic and semantic skills. The current research and previous researches like Rao (1995), Kumudavalli (1973), Thasneem (1977), and Sucharitha & Karanth (1990) were all based on the subject samples from Mysore and Bangalore Kannada speaking area. As entire data is based on one of the three major dialects of Kannada it was felt important to check the similarity and difference in the pattern of language acquisition and use in the other two major dialects of Kannada namely Mangalore and Bangalore/North Kannada. It is felt that data on this will influence the nature of language evaluation and intervention in subjects with intellectual disabilities. It is also observed that no previous research comparing either typically developing 4-6 years or 4-6 years old mental aged children with intellectual disability group has been conducted.

Dialectical Observation:

As mentioned the children belonging (10 typically developing children & 10 children with Intellectual disability) to Mysore, Mangalore and Bangalore dialects of Kannada were

studied. The conversational samples were video recorded and analyzed for phonological, syntactic, semantic and pragmatic aspects of language.

It was expected that the phonological development is complete by 6 years of age in Kannada speaking children. In dialectical comparisons subjects of Mysore, Mangalore, and Bangalore dialects reflected this trend. It can be safely concluded that the phonological acquisition is comparable across 3 groups of children with intellectual disability.

Among children with intellectual disabled group, Kannada phonemes such as dental, pharyngeal, alveolar, were not acquired by majority of subjects using Bangalore dialects. Both Mangalore and Bangalore region shows presence of multilingualism. Hence the same factor has not influenced subjects. So it would be interesting to look on the influence of non availability of speech language assessment and therapy session in these areas.

Typically developing children showed similar trend across the dialects for morphophonemic acquisition. It can be stated that morphophonemic structures continues to develop over the age of 4 – 6 years. The availability of therapy and special education services could influence better performance in subjects with intellectual disability in Mangalore and Mysore region.

Similar trend across plurals, tenses, can be observed in typically developing children and children with intellectual disability across dialects. PNG markers showed a varied performance in children with intellectual disability. Mangalore and Bangalore subjects have consistently used less PNG markers compared to Mysore dialect children with intellectual disability. This variation is interesting as both Mangalore and Belgaum children performed poorly ruling out the influence of multilingualism and training services. The nature of dialect itself could be a factor which needs further research.

Consistently poorer performance in subjects using Bangalore dialects across case marker, sentence types and other syntactic aspects was noted. There was no difference in the TD group. An interesting observation is that subjects with intellectual disability using Mangalore dialect used all verb form. This could be a dialectical variation as the language spoken resembles the language written syntactically.

Overall syntactic aspects indicate that the language acquisition could vary across dialectical regions. This further needs examination.

Both semantic aspects both intentions and relations also point out a varied performance in children with intellectual disability across the dialects and the trend is very similar to language performance of typically developing subjects. Semantic aspects do not appear to vary across dialects.

Pragmatic aspects indicate that both typically developing children and children with intellectual disability continue to show variation across dialectical groups. In general, all the subjects continue to show that the pragmatic skills are still developing. Certain aspects like topic initiation and narration are observed only in Mysore group. This probably indicates higher general education level. These factors require further research. The typically developing children seem to acquire the language skills in comparable level across dialects as children with intellectual disability show variation. The complex interaction of multilingualism, availability of services for language therapy and general demand for communication appear to play the role. Further research will be required to explore this area.

Implications:

1. Future studies can be conducted on subjects with Intellectual Disabilities
2. The TD child profile can be widely applied to develop language evaluation tools in each aspects of syntax.
3. Subjects with Intellectual Disabilities can be compared at the starting and subsequent stages of therapy suing the profile
4. The most present syntactic structures in the Intellectual Disabilities group can be focused in therapy to crosscheck the changes in the language domain such as pragmatics.